DSM2 Users Group Newsletter

July 24, 2008 Delta Modeling Section / Department of Water Resources

DSM2 VERSION 7 UPDATE

DWR Delta Modeling staff have been rigorously testing and documenting DSM2 Version 7. The current testing includes:

1 Evaluation of simulation results for DSM2 Version 7 compared against results from text version of DSM2 for the same hydrology excluding gate operations. The configuration of the gates has changed in Version 7 so results will be affected by the differences in gate configuration. This testing checks that the model provides the same results as the previous text version. There were some minor bugs encountered that were corrected. Documentation of the testing is proceeding.

2 Evaluation of historical simulation (1990-present) results for DSM2 Version 7 from text version of DSM2 and observed data. There are expected differences due to differences in model gate configurations. The testing looks at the extent of these differences and how they affect the calibration/validation. Documentation of the evaluation has started.

3 Evaluation of new gate operations in the South Delta Planning simulations. Extensive testing and modifications to the South Delta permanent gate operations have been completed. These gates use flow and stage triggers to operate in a more sophisticated manner. Documentation of these planning operations are in draft form.

In addition, extension of the 16 year planning simulations to 82 years in Version 7 has been completed. Also, version control of the Version 7 input is being developed. This is mainly a DWR in house function since staff work from a centralized database.

CLIMATE CHANGE STUDIES

In response to an executive order requesting biennial reports on climate change impacts to water resources, DSM2 will be run for 12 climate change scenarios. This is an extension of the work done for the 2006 report "Progress on Incorporating Climate Change into Management of California's Water Resources". Advancements in the new application of DSM2 for climate change include: 1) adjusting Delta Island Consumptive Use to reflect changes in precipitation for climate change scenarios, 2) representing sea level rise impacts on reservoir operations (done in CalSim runs that provide input to DSM2), and 3) adjusting water year type designations for analysis of water quality standard compliance.

IMPLEMENTING CALIFORNIA AQUEDUCT EXTENSION

Delta Modeling is working on implementing the DSM2 extension for the California Aqueduct (text version). Ch2MHill has already developed the capability of modeling the Aqueduct and Delta Mendota Canal using the text version of DSM2 for planning studies and has simulated historical flow and EC conditions for the 2000-2003 period. Current work is focusing on extending the historical simulation and developing the capability for forecasting hydraulic and water quality conditions down the Aqueduct. Longer-term plans call for implementing the DSM2 extension for the Aqueduct for the database version of DSM2.

DSM2 CALIBRATION

Ralph Finch is taking charge of the DSM2 calibration project. The website for updates of this project is at: http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/models/dsm2/eval.cfm
Ralph is exploring new methods of calibration which are outlined in a memo which can be downloaded at: http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/models/dsm2/DSM2CalibrationSuggestions.pdf
Please send any comments/ideas to Ralph at: rfinch@water.ca.gov.

2008 REPORT TO SWRCB

The 2008 Annual Report is progressing through DWR's approval process, and should be ready to post on Delta Modeling Section's web page in just a few weeks. The two chapters included in the report are: *Magnitude of Dispersion Factors Used in DSM2-Qual*, and *Impacts of Sea Level Rise and Amplitude Change on Delta Operation*s.

If you have any comments or suggestions concerning the DSM2 Users Group, please contact Min Yu (minyu@water.ca.gov).